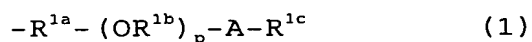


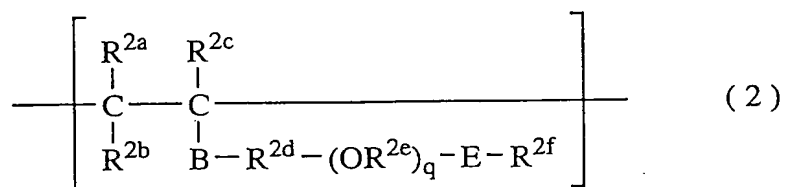
Claims

1. An allergen-reducing agent comprising water and a water-soluble polymer compound having units having hydroxy or carboxy groups wherein at least a part of hydrogen atoms of the hydroxy or carboxy groups are substituted by groups represented by the following formula (1):



wherein R^{1a} is a C1 to C6 alkylene group which may be substituted with a hydroxy or oxo group, R^{1b} is a C1 to C6 alkylene group, R^{1c} is a group selected from the group consisting of a C4 to C30 hydrocarbon group which may be substituted with a hydroxy group, a C1 to C5 sulfoalkyl group which may be substituted with a hydroxy group, and a hydrocarbon group which has a steroid skeleton, A is a group selected from the group consisting of -O-, -OCO- and -COO-, p is 0 to 50 (average number of moles added), and (OR^{1b}) moles whose number is p may be the same or different.

2. The allergen-reducing agent according to claim 1, wherein the water-soluble compound comprises monomer units (a1) and (a2) represented by the following formulae (2) and (3), respectively, a molar ratio of (a1)/(a2) is 1/1500 to 30/100 and a ratio of (a1) and (a2) in total in the molecule is 50 to 100 mol%:



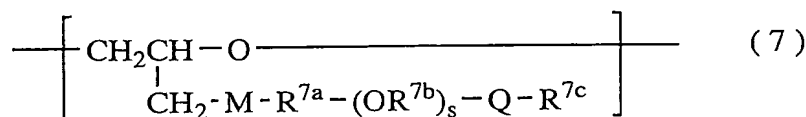
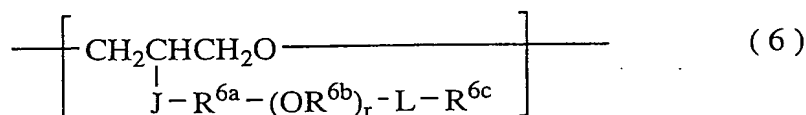
wherein R^{2a} is a hydrogen atom or a C1 to C3 alkyl group, R^{2b} is a group selected from a hydrogen atom and $-\text{COOM}$, M being a hydrogen atom, an alkali metal atom or an alkaline earth metal atom, R^{2c} is a group selected from a hydrogen atom, a C1 to C3 alkyl group and a hydroxy group, R^{2d} is a C1 to C6 alkylene group which may be substituted with a hydroxy group, R^{2e} is a C1 to C6 alkylene group, R^{2f} is a C4 to C30 hydrocarbon group which may be substituted with a hydroxy group, B is a group selected from $-\text{O}-$, $-\text{COO}-$, $-\text{OCO}-$ and $-\text{CONR}^{2g}-$, R^{2g} being a hydrogen atom, a C1 to C3 alkyl group or a C1 to C3 hydroxyalkyl group, E is a group selected from $-\text{O}-$, $-\text{OCO}-$ and $-\text{COO}-$, q is 0 to 50 (average number of moles added), and (OR^{2e}) moles whose number is q may be the same or different;



wherein R^{3a} is a hydrogen atom or a C1 to C3 alkyl group, R^{3b} is a group selected from a hydrogen atom and $-\text{COOM}$, M being

a hydrogen atom, an alkali metal atom or an alkaline earth metal atom, R^{3c} is a group selected from a hydrogen atom, a C1 to C3 alkyl group and a hydroxy group, G is $-COOM$, $-OH$, $-T-(R^{3d}O)_c-H$, $-CON(R^{3e})(R^{3f})$, $-COO-R^{3g}-N^+(R^{3h})(R^{3i})(R^{3j})\cdot X^-$, $-COO-R^{3g}-N(R^{3h})(R^{3j})$, $-CON(R^{3e})-R^{3g}-N^+(R^{3h})(R^{3i})(R^{3j})\cdot X^-$, $-CON(R^{3e})-R^{3g}-N(R^{3h})(R^{3j})$ or a 5- or 6-membered heterocyclic group having at least one amino or amide group in the ring, M is a hydrogen atom, an alkali metal atom or an alkaline earth metal atom, T is a group selected from $-O-$ and $-COO-$, R^{3d} is a C1 to C6 alkylene group, R^{3e} , R^{3f} , R^{3h} , R^{3i} and R^{3j} each represent a hydrogen atom, a C1 to C3 alkyl group or a C1 to C3 hydroxyalkyl group, R^{3g} is a C1 to C5 alkylene group, X^- represents an organic or inorganic anionic group, c is 0 to 50 (average number of moles added) and $(R^{3d}O)$ moles whose number is c may be the same or different.

3. The allergen-reducing agent according to claim 1, wherein the water-soluble polymer compound comprises unit (a3) of the following formula (4) and/or the following formula (5) and unit (a4) of the following formula (6) and/or the following formula (7), a molar ratio of (a4)/(a3) is 1/1500 to 30/100 a ratio of (a3) and (a4) in total in the molecule is 50 to 100 mol%.



wherein J and M are a group selected from -O-, -OCO- and -COO-, R^{6a} and R^{7a} are a C1 to C6 alkylene group, R^{6b} and R^{7b} are a C1 to C6 alkylene group, R^{6c} and R^{7c} are a C4 to C30 hydrocarbon group which may be substituted with a hydroxy group, L and Q are a group selected from -O-, -OCO- and -COO-, and r and s are 0 to 50 (average number of moles added), and (OR^{6b}) moles whose number is r or (OR^{7b}) moles whose number is s may be the same or different.

4. An allergen-reducing agent contained in a spray container, which comprises the allergen-reducing agent of any of claims 1 to 3 introduced into a container provided with a spray device.

5. An allergen-reducing sheet comprising a flexible sheet impregnated with the allergen-reducing agent of any of claims 1 to 3.

6. A method of reducing allergen, which comprises spraying the allergen-reducing agent of any of claims 1 to 3 into space.

7. The method according to claim 6, wherein the polymer compound is cellulose, starch or a derivative thereof.

8. A method of reducing allergen, which comprises spraying or applying the allergen-reducing agent of any of claims 1 to 3 onto the surface of an object and then wiping it off with a water-absorbing article before drying.

9. A cleaning method which comprises cleaning by vacuuming or sweeping cleaning after carrying out the method of claim 7.

10. A cleaning method which comprises wiping the surface of an object with an allergen-reducing sheet having a flexible sheet impregnated with the allergen-reducing agent of any of claims 1 to 3 and cleaning by vacuuming or sweeping cleaning.

11. The method according to any of claims 8 to 10, wherein the polymer compound is cellulose, starch or a derivative thereof.